Yeasts found to be part of marine environment

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Research in California and the southwest Pacific has recently found another, and perhaps important, constituent of the food chain of the sea.

Working near California kelp beds and over tropical coral reefs, scientists of The University of California's Scripps Institution of Oceanography have demonstrated that yeasts exist in the ocean. Since some commonly known yeasts synthesize vitamins, this raises the possibility that the new marine yeasts may provide these growth factors for some of the creatures of the sea. Previously it had been supposed that yeasts are few or non-existent in the oceans because of the dearth there of carbohydrates, which the yeasts need to grow on.

Claude E. ZoBell, Professor of Marine Microbiology at Scripps, spent a part of the past summer studying bacteria and yeasts in the western Pacific under the auspices of a grant from the Public Health Service. Working in the South China Sea aboard the vessel Stranger on Naga Expedition and on the coral reefs off the northern tip of Australia, he collected 30 cultures of marine yeasts. Not yet thoroughly identified, some of these have proved to be so closely adapted to the marine environment that they die in fresh water.

By taking water samples within inches of coral heads, ZoBell collected data suggesting that the living corals ingest bacteria and yeasts from the water. There were far less bacteria and yeasts in the water near the corals than in that a few feet overhead. ZoBell estimates that these microorganisms may provide as much as 10 percent of the food of the corals. Thus the tiniest living inhabitants of the ocean have contributed to the greatest structures built by living creatures. These are the mile-high ramparts of the coral reefs, which dwarf such man-made objects as the Pyramids and Boulder Dam.

One objective of ZoBell's trip was to test a portable microbiological laboratory he has designed. Weighing only 62 pounds, the miniaturized laboratory enabled him to conduct research without recourse to shipboard or elaborate land-based laboratories.